

### AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A method for ~~[[the]]~~ heat ~~treatment of~~ treating solids containing iron oxide, ~~in which comprising heating~~ fine-grained solids ~~are heated to a~~ temperature of 700 to 1150°C in a fluidized bed reactor ~~[[ (8) ]]~~, ~~characterized in that~~ introducing from below a first gas or gas mixture ~~is introduced from below~~ into a mixing chamber region ~~[[ (15) ]]~~ of the reactor ~~[[ (8) ]]~~ through at least one gas supply tube ~~[[ (9) ]]~~, the at least one gas supply tube ~~[[ (9) ]]~~ being at least partly surrounded by a stationary annular fluidized bed ~~[[ (12) ]]~~ which is fluidized by supplying fluidizing gas, and ~~that the~~ adjusting gas velocities of the first gas or gas mixture and of the fluidizing gas for the annular fluidized bed ~~(12) are adjusted such that, wherein~~ the gas velocities have a Particle-Froude-Number~~[[s]]~~ in the gas supply tube ~~(9) are~~ between 1 and 100, in the annular fluidized bed ~~[[ (12) ]]~~ between 0.02 and 2, and in the mixing chamber ~~[[ (15) ]]~~ between 0.3 and 30.

2. (Currently Amended) The method as claimed in claim 1, ~~characterized in that~~ wherein the Particle-Froude-Number in the gas supply tube ~~(9) lies is~~ between 1.15 and 20.

3. (Currently Amended) The method as claimed in claim 1 ~~or 2~~, ~~characterized in that~~ wherein the Particle-Froude-Number in the annular fluidized bed ~~(12) lies is~~ between 0.115 and 1.15.

4. (Currently Amended) The method as claimed in ~~any of the preceding~~ claims, ~~characterized in that~~ claim 1, wherein the Particle-Froude-Number in the mixing chamber ~~(15) lies is~~ between 0.37 and 3.7.

5. (Currently Amended) The method as claimed in ~~any of the preceding~~ claims, ~~characterized in that the filling level of~~ claim 1, adjusting solids in the reactor ~~(8) is adjusted to have a filling level~~ such that the annular fluidized bed ~~[[ (12) ]]~~ extends beyond the upper orifice end of the gas supply tube ~~(9), so and~~ that solids are constantly introduced into

the first gas or gas mixture and are entrained by the gas stream to the mixing chamber ~~[[15]]~~ located above the orifice region of the gas supply tube ~~[[9]]~~.

6. (Currently Amended) The method as claimed in ~~any of the preceding claims, characterized in that~~ claim 1, wherein the solids containing iron oxide comprises iron ore, nickel ore containing iron oxide, manganese ore containing iron oxide, or chromium ore containing iron oxide is used as starting material.

7. (Currently Amended) The method as claimed in ~~any of the preceding claims, characterized in that~~ claim 1, generating fuel is supplied to the reactor (8), through whose combustion with an oxygen-containing gas at least part of the amount of heat required for the thermal treatment is generated by combusting fuel supplied to the reactor with an oxygen-containing gas.

8. (Currently Amended) The method as claimed in claim 7, ~~characterized in that~~ wherein the fuel is introduced into the reactor ~~[[8]]~~ through the gas supply tube ~~[[9]]~~.

9. (Currently Amended) The method as claimed in claim 7 ~~or 8, characterized in that~~ wherein the fuel is introduced into the annular fluidized bed ~~[[12]]~~ and/or the mixing chamber ~~[[15]]~~ of the reactor ~~[[8]]~~.

10. (Currently Amended) The method as claimed in ~~any of claims 7 to 9, characterized in that~~ claim 7, wherein oxygen-containing gas with an oxygen content of 15 to 30 % is introduced into the reactor ~~[[8]]~~ either through a conduit above the annular fluidized bed or through the ~~central~~ gas supply tube, wherein the gas supply tube is centrally located ~~[[9]]~~.

11. (Currently Amended) The method as claimed in claim 7, any of the preceding claims, characterized in that wherein at least part of the exhaust gas of a second reactor (14, 14') downstream of the reactor ~~[[8]]~~ is introduced into the reactor ~~[[8]]~~ via the gas supply tube ~~[[9]]~~.

12. (Currently Amended) The method as claimed in claim 11, ~~characterized in that~~ supplying a mixture of exhaust gas from the second reactor (14, 14'), of an oxygen-containing gas, and of gaseous fuel ~~is supplied~~ to the reactor [(8)] through the gas supply tube [(9)].

13. (Currently Amended) The method as claimed in claim 1, ~~any of the preceding claims, characterized in that~~ a hot gas is supplied to the reactor (8) via the gas supply tube (9), which was generated in a combustion chamber (29) upstream of said reactor by the combustion of combusting, in a combustion chamber upstream of the reactor, gaseous fuel and/or fuel-containing exhaust gas from a further reactor (14, 14', 30) downstream of the reactor [(8)] thereby generating a hot gas, and supplying the hot gas to the reactor via the gas supply tube.

14. (Currently Amended) The method as claimed in ~~any of the preceding claims, characterized in that~~ claim 1, wherein the fluidizing gas is air, wherein air is supplied to the reactor [(8)] as fluidizing gas for the annular fluidized bed [(12)].

15. (Currently Amended) The method as claimed in ~~any of the preceding claims, characterized in that~~ claim 1, wherein the pressure in the reactor [(8)] is between [(0,8)]0.8 and 10 bar.

16. The method as claimed in claim 1, ~~any of the preceding claims, characterized in that~~ wherein before entering the reactor [(8)], the solids are preheated in at least one preheating stage ~~consisting of having~~ a suspension heat exchanger [(5)] and a downstream cyclone [(6)].

17. (Currently Amended) The method as claimed in claim 16, ~~characterized in that~~ wherein the solids in [(the)]a first suspension heat exchanger [(2)] are heated by exhaust gas from [(the)]a second suspension heat exchanger [(5)] and in the second suspension heat exchanger ~~(5)~~ by the exhaust gas is from the reactor [(8)].

18. (Currently Amended) The method as claimed in claim 16 ~~or 17~~, ~~characterized in that~~ wherein 0 to 100 % of the solids separated in a cyclone [(3)] of [(the)]a first preheating stage are directly introduced into the reactor [(8)] via a bypass

conduit ~~[(28)]~~ bypassing ~~[(the)]~~ a second preheating stage, whereas the remaining amount of the solids is first introduced into the second preheating stage~~[(,)]~~ before the ~~[(same)]~~ the remaining amount of the solids is also introduced into the reactor ~~[(8)]~~.

19. (Currently Amended) A plant for ~~[(the)]~~ heat ~~treatment of~~ treating solids containing iron oxide, ~~in particular for performing~~ by the method as claimed in ~~any of claims 1 to 18, claim 1,~~ comprising a reactor ~~[(8)]~~ constituting a fluidized bed reactor, **characterized in that** wherein the reactor ~~[(8)]~~ has a gas supply system which is formed such that gas flowing through the gas supply system entrains solids from a stationary annular fluidized bed ~~[(12)]~~, which at least partly surrounds the gas supply system, into the mixing chamber ~~[(15)]~~.

20. (Currently Amended) The plant as claimed in claim 19, **characterized in that** wherein the gas supply system has at least one gas supply tube ~~[(9)]~~ extending upwards substantially vertically from the lower region of the reactor ~~[(8)]~~ into the mixing chamber ~~[(15)]~~ of the reactor ~~[(8)]~~, the gas supply tube ~~[(9)]~~ being at least partly surrounded by a chamber in which the stationary annular fluidized bed ~~[(12)]~~ is formed.

21. (Currently Amended) The plant as claimed in claim 20, **characterized in that** wherein the gas supply tube ~~[(9)]~~ is arranged approximately centrally with reference to the cross-sectional area of the reactor ~~[(8)]~~.

22. (Currently Amended) The plant as claimed in ~~any of claims 19 to 21,~~ **characterized in that** claim 19, wherein the gas supply tube ~~[(9)]~~ has openings, ~~for instance in the form of slots,~~ at ~~[(its)]~~ the shell surface of the gas supply tube.

23. (Currently Amended) The plant as claimed in claim 19, wherein ~~any of claims 19 to 22, characterized in that~~ a cyclone ~~[(17)]~~ for separating solids is provided downstream of the reactor ~~(8), and that~~ wherein the cyclone ~~[(17)]~~ has a solids conduit ~~[(18)]~~ leading to the annular fluidized bed ~~[(12)]~~ of the reactor ~~[(8)]~~.

24. (Currently Amended) The plant as claimed in ~~any of claims 19 to 23,~~ **characterized in that** claim 19, wherein in the annular chamber of the reactor ~~[(8)]~~ a gas distributor ~~[(11)]~~ is provided, ~~which~~ wherein the gas distributor divides the chamber into an

upper fluidized bed region  $[(12)]$  and a lower gas distributor chamber  $[(10)]$ , and that the gas distributor chamber  $[(10)]$  is connected with a supply conduit for fluidizing gas.

25. (Currently Amended) The plant as claimed in ~~any of claims 19 to 24,~~  
~~characterized in that~~ claim 19, wherein the reactor  $[(8)]$  has a fuel supply conduit ~~(21, 20)~~  
leading to the gas supply tube  $[(9)]$  and/or a fuel supply conduit ~~(21, 20)~~ leading to the  
annular chamber.

26. (Currently Amended) The plant as claimed in ~~any of claims 19 to 25,~~  
~~characterized in that~~ claim 19, wherein the reactor  $[(8)]$  has a supply conduit for oxygen-  
containing gas, ~~which~~ wherein the supply conduit leads to the gas supply tube  $[(9)]$  or into a  
region above the annular fluidized bed  $[(12)]$ .

27. (Currently Amended) The plant as claimed in ~~any of claims 19 to 26,~~  
~~characterized in that~~ claim 19, wherein upstream of the reactor  $[(8)]$ , a combustion  
chamber  $[(29)]$  is provided.

28. (Currently Amended) The plant as claimed in ~~any of claims 19 to 27,~~  
~~characterized in that~~ claim 19, wherein the gas supply tube  $[(9)]$  of the reactor  $[(8)]$  is  
connected with another reactor ~~(14, 14', 30)~~ downstream of the reactor  $[(8)]$  via a supply  
conduit  $[(20)]$ .

29. (new) The plant as claimed in claim 22, wherein the openings are in  
the form of slots.